

# CP Algebra 2

Properties of Exponents

NAME \_\_\_\_\_

Block \_\_\_\_\_

Simplify

$$(2x^3)(3y)(-x^2y^3)$$

$$(5x^4)^2(3x^5)$$

$$\left(\frac{3}{4}m^3\right)(4m^2)^2$$

$$-6x^5y^4$$

$$75x^{13}$$

$$12m^7$$

$$(11g^{-2})\left(\frac{2}{3}g^{-1}\right)^{-2}$$

$$(7d)^{-3}(14cd^2)$$

$$x^2y \cdot 2xy^2 \cdot 5x^{-5}y^{-3}$$

$$\frac{99}{4}$$

$$\frac{2}{49}cd^{-1} \text{ OR } \frac{2c}{49d}$$

$$10x^{-2} \text{ OR } \frac{10}{x^2}$$

$$\frac{3x^2y^{-3}}{(6xy^2)^3}$$

$$\frac{3t^{-7}s^{11}}{15t^{-3}s^{14}}$$

$$\left(\frac{6x^2}{4y}\right)^{-3} \left(\frac{x^5}{x^{-2}}\right)$$

$$\frac{3}{216}x^{-1}y^{-9}$$

$$\frac{1}{5}t^{-4}s^{-3}$$

$$\frac{8}{27}xy^3$$

OR

OR

OR

$$\frac{3}{216xy^9}$$

$$\frac{1}{5t^4s^3}$$

$$\frac{8xy^3}{27}$$

$$(2x^{-\frac{1}{2}}z^4)(3x^{\frac{1}{3}}y^{-2}z^{-7})$$

$$\sqrt[3]{3x^4} * \sqrt[2]{3x}$$

$$6x^{-\frac{1}{6}}y^{-2}z^{-3}$$

$$3^{\frac{5}{6}}x^{\frac{11}{6}}$$

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Solve for x:

$$1 - (3x + 2)^{\frac{3}{2}} = -26$$

$$x = \frac{7}{3}$$

$$\frac{(2x^3)^5}{8x^8} - 80 = 432$$

$$x = 2$$

$$2\sqrt[3]{27x^2} - 14 = 40$$

$$x = \pm 27$$

$$5(3x - 2)^{\frac{5}{2}} + 34 = 194$$

$$x = 2$$

A power function has the form  $y = ax^p$ , where  $a < 0$ ,  $p < 0$  and  $p$  is odd. Sketch a graph of this function.

*The graph should be in quadrants II and IV*

